

Claims

I claim:

1. A computer-implemented method for resolving prerequisites for native applications in an Open Service Gateway Initiative (OSGi) framework, comprising:

 packaging a native application for a client device and corresponding dependency information within a first OSGi bundle on a server, wherein the corresponding dependency information specifies at least one prerequisite on which the native application depends for proper operation on the client device;

 polling the client device to determine if the client device has the at least one other prerequisite;

 obtaining the at least one prerequisite if the client device does not have the at least one prerequisite; and

 loading the at least one prerequisite and the native application on the client device.

2. The method of claim 1, further comprising registering the packaged native application and first OSGi bundle after the packaging step, wherein the registering step comprises storing the corresponding dependency information.

3. The method of claim 1, wherein the polling step comprises:

 identifying the at least one prerequisite to the client device; and

 receiving a response from the client device, wherein the response indicates whether the client device has the at least one prerequisite.

4. The method of claim 1, further comprising:

determining the at least one prerequisite, prior to the packaging step; and
generating the corresponding dependency information based on the at least one prerequisite.

5. The method of claim 1, wherein the at least one prerequisite comprises another native application.

6. The method of claim 1, wherein the at least one prerequisite is packaged with corresponding dependency information within a second OSGi bundle, and wherein the obtaining step comprises obtaining the second OSGi bundle.

7. The method of claim 6, wherein loading step comprises:

installing the first OSGi bundle and the second OSGi bundle within an OSGi environment of the client device;

deploying the first OSGi bundle and the second OSGi bundle within a native environment of the client device; and

removing the native application from within the first OSGi bundle and the at least one prerequisite from within the second OSGi bundle.

8. The method of claim 1, wherein the method is performed recursively.

9. The method of claim 1, wherein the dependency information is expressed as a package import statement.

10. The method of claim 1, wherein a name and version of the native application is represented in a name and version of the OSGi bundle.

11. A computer-implemented method for resolving prerequisites for native applications in an Open Service Gateway Initiative (OSGi) framework, comprising:

 packaging a native application for a client device and corresponding dependency information within a first OSGi bundle on a server, wherein the dependency information specifies at least one prerequisite on which the native application depends for proper operation on the client device;

 polling the client device to determine if the client device has the at least one other prerequisite;

 obtaining the at least one prerequisite if the client device does not have the at least one prerequisite, wherein the at least one prerequisite is packaged within a second OSGi bundle that is accessible to the server; and

 installing the first OSGi bundle and the second OSGi bundle within an OSGi environment of the client device.

12. The method of claim 11, wherein the first OSGi bundle and the second OSGi bundle are registered on the server after being packaged with the first native application and the at least one prerequisite.

13. The method of claim 11, wherein the polling step comprises:

 identifying the at least one prerequisite to the client device; and

 receiving a response from the client device, wherein the response indicates whether the client device has the at least one prerequisite.

14. The method of claim 11, further comprising:

determining the at least one prerequisite, prior to the packaging step; and
generating the dependency information based on the at least one prerequisite.

15. The method of claim 11, wherein the at least one prerequisite comprises another native application.

16. The method of claim 11, further comprising:

deploying the first OSGi bundle and the second OSGi bundle within a native environment of the client device; and
removing the native application from within the first OSGi bundle and the at least one prerequisite from within the second OSGi bundle.

17. The method of claim 11, wherein the at least one prerequisite is packaged with corresponding dependency information within the second OSGi bundle.

18. The method of claim 11, wherein the method is performed recursively.

19. A computerized system for resolving prerequisites for native applications in an Open Service Gateway Initiative (OSGi) framework, comprising:

a packaging system for packaging a native application for a client device and corresponding dependency information within a first OSGi bundle on a server, wherein the dependency information specifies at least one prerequisite on which the native application depends for proper operation on the client device;

a communication system for polling the client device to determine if the client device has the at least one other prerequisite;

a resolution system for obtaining the at least one prerequisite if the client device does not have the at least one prerequisite, wherein the at least one prerequisite is packaged within a second OSGi bundle that is accessible to the server; and

a bundle loading system for loading the first OSGi bundle and the second OSGi bundle on the client device.

20. The system of claim 19, wherein packaging system further registers the first OSGi bundle after being packaged with the first native application.

21. The system of claim 19, wherein the communication system identifies the at least one prerequisite to the client device and receives a response from the client device that indicates whether the client device has the at least one prerequisite.

22. The system of claim 19, further comprising:

a prerequisite identification system for determining the at least one prerequisite;

and

an information generation system for generating the dependency information based on the at least one prerequisite.

23. The system of claim 19, wherein the at least one prerequisite comprises another native application.

24. The system of claim 19, wherein bundle loading system comprises:

an export system for installing the first OSGi bundle and the second OSGi bundle within the OSGi environment of the client device;

a deployment system for deploying the first OSGi bundle and the second OSGi bundle within a native environment of the client device; and

a removal system for removing the native application from within the first OSGi bundle and the at least one prerequisite from within the second OSGi bundle.

25. The system of claim 19, wherein the at least one prerequisite is packaged with corresponding dependency information within the second OSGi bundle.

26. The system of claim 19, wherein the client device includes:

an analysis system for determining whether the client device has the at least one prerequisite; and

a response system for generating and sending a response to the server.

27. The system of claim 19, wherein the dependency information specifies an identity and a version of the at least one prerequisite required by the native application.

28. The system of claim 27, wherein the at least one prerequisite comprises another native application.

29. The system of of claim 19, wherein the dependency information is expressed as a package import statement.

30. The system of claim 19, wherein a name and version of the native application is represented in a name and version of the OSGi bundle.

31. A program product stored on a recordable medium for resolving prerequisites for native applications in an Open Service Gateway Initiative (OSGi) framework, which when executed, comprises:

program code for packaging a native application for a client device and corresponding dependency information within a first OSGi bundle on a server, wherein the dependency information specifies at least one prerequisite on which the native application depends for proper operation on the client device;

program code for polling the client device to determine if the client device has the at least one other prerequisite;

program code for obtaining the at least one prerequisite if the client device does not have the at least one prerequisite, wherein the at least one prerequisite is packaged within a second OSGi bundle that is accessible to the server; and

program code for loading the first OSGi bundle and the second OSGi bundle on the client device.

32. The program product of claim 31, wherein program code for packaging further registers the first OSGi bundle after being packaged with the first native application.

33. The program product of claim 31, wherein the program code for polling identifies the at least one prerequisite to the client device and receives a response from the client device that indicates whether the client device has the at least one prerequisite.

34. The program product of claim 31, further comprising:

program code for determining the at least one prerequisite; and

program code for generating the dependency information based on the at least one prerequisite.

35. The program product of claim 31, wherein the at least one prerequisite comprises another native application.

36. The program product of claim 31, further comprising:

program code for installing the first OSGi bundle and the second OSGi bundle within an OSGi environment of the client device;

program code for deploying the first OSGi bundle and the second OSGi bundle within a native environment of the client device; and

a removal system for removing the native application from within the first OSGi bundle and the at least one prerequisite from within the second OSGi bundle.

37. The program product of claim 31, wherein the at least one prerequisite is packaged with corresponding dependency information within the second OSGi bundle.

38. The program product of claim 31, wherein the client device includes:

program code for determining whether the client device has the at least one prerequisite; and

program code for generating and sending a response to the server.

39. The program product of claim 31, wherein the dependency information is expressed as a package import statement.

40. The program product of claim 31, wherein a name and version of the native application is represented in a name and version of the OSGi bundle.